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ABSTRACT

A social simulation game, Consumer, was used to study the effectiveness of simulation in teaching facts about: (1) installment buying; (2) how to compare available sources of credit; and (3) how to recognize the best credit contract. The entire twelfth grade at one high school participated in the study. Ten class sections were assigned to experimental and control groups. Individual teachers had both types of classes. Experimental groups played two games of Consumer, which lasted for six class meetings; control classes had one curriculum unit on consumer use of installment contracts. Two dependent variable measures were developed: one, a test consisting of true/false and multiple choice items; the other, a simulated test of the process of buying a car. There was no significant difference between simulation and conventional approaches with regard to factual learning. The simulation was more successful in producing credit-comparison shopping behavior on the "To Buy a Car" test. The results suggest that simulation games are better able to produce behavioral changes than conventional classroom techniques. (Author)

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REPORT No. 67

MEASURING BEHAVIORAL LEARNINGS: A STUDY IN CONSUMER CREDIT

BY

C RAYMOND ANDERSON

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MAY 1970

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MEASURING BEHAVIORAL LEARNINGS: A STUDY IN CONSUMER CREDIT

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ABSTRACT

A social simulation game, Consumer, was used to study the effectiveness of simulation in teaching facts about (1) installment buying, (2) how to compare available sources of credit, and (3) how to recognize the best credit contract. The entire twelfth grade at one high school (N = 280) participated in the study. Ten class sections were assigned to experimental and control groups. Individual teachers had both types of classes. Experimental groups played two games of Consumer, which lasted for six class meetings; control classes had one curriculum unit on consumer use of installment contracts. Two dependent variable measures were developed: one, a test consisting of true-false and multiple choice items; the other, a simulated test of the process of buying a car. (The "To Buy a Car" test is included in its entirety as an appendix to the paper.) There was no significant difference between simulation and conventional approaches with regard to factual learning. The simulation was more successful in producing credit-comparison shopping behavior on the "To Buy a Car" test. The results suggest that simulation games are better able to produce behavioral changes than conventional classroom techniques.

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MEASURING BEHAVIORAL LEARNINGS:

A STUDY IN CONSUMER CREDIT

Simulation learning game research is rich with evidence of student involvement, extent of participation and level of activity, but the measurement of behavior learned through game participation in the classroom has not been extensively reported.

Cherryholmes (1966) reviewed six studies of games research and found little positive evidence in favor of learning through participation in simulation learning games. From these studies there was evidence of student interest; but no significant evidence of learning facts or principles, no significant evidence on the retention of learning, no significant gain in problem solving ability, and no significant gain in attitude change.

A seemingly significant observation reported by Boocock (1967) is that much of the reported simulation game research does not compare the amount of learning by students in a game experience with learning by students who are taught the same information by another method.

Another study (Boocock et al., 1967: 78-80) concludes that the poor showing of game results in learning effectiveness studies may be attributed to the fact that we have not designed ways to measure different kinds of learning -- we may be asking the wrong questions about the effectiveness of games relative to their unique contribution to learning.

There is need to discover whether a game teaches particular things better than alternative methods of instruction, or better than which alternative methods of instruction. Some of the "particular things"

might be behaviors in contrast to knowledge since learning through participating in a simulation learning game requires the learner to behave in certain ways and also to have some knowledge of facts or information as a guide to that behavior.

Simulation learning games provide an opportunity for the student to learn the behavior (usually decision-making behavior) of a person in a specific role for either of two broad purposes:

1. To experience the behavior of a citizen in a role which the student faces, or will face, as a member of society at large; for example, parent, consumer, voter, member of a community action group, or productive member of society.

2. To experience the process of decision-making and the factors influencing decisions by leaders of society whose decisions influence society at large and should be understood by society; for example, legislators, members of international policy groups, business and industrial managers, and policy-makers.

Numerous games have been developed to provide both types of learning -- learning a behavior for self use and learning to understand behavior of others. It is generally observed by teachers and researchers using simulation learning games for either type of learning that motivation for learning is high during the simulation learning game and that game participants learn with enthusiasm.

Although "learning" is an integral part of the designation of game techniques as "simulation learning games," the fact that "learning" does occur through these techniques is a concern of current research in the field. While it is acknowledged that students of these techniques do experience certain behaviors within an environment, it is not

known generally what is learned or how effective that learning is in comparison with other types of learning experiences.

This study was designed to measure the effectiveness of a simulation learning game in teaching three specifically defined behaviors in contrast to the effectiveness of learning the same three defined behaviors through conventional classroom techniques. The CONSUMER game (Zaltman, 1967) was selected because its author had defined its learning goals. These learning goals were reworded into the following three specifically defined behaviors to be used as determinants of the effectiveness of learning for this study.

As a result of the unit of instruction, students will be able to:

1. answer factual-information multiple choice and true-false questions related to the use of installment credit;
2. compare available sources of credit before selecting one;
3. select and sign a credit contract with terms and conditions most favorable to the borrower.

The hypothesis is that students who are taught the use of installment credit through a simulation learning game will demonstrate these three specifically defined behaviors to a greater extent than students who are taught the use of installment credit through conventional classroom approaches.

This hypothesis is based on the assumption that the simulation learning game involves the student in the practices he is attempting to learn. Rather than learning about installment credit by reading

and discussing the process, the students in the simulation learning game experience the process of comparing credit sources and selecting a particular credit contract. By interacting with others, they develop a strategy for playing the game which is the same one they might use in the real-life process of installment buying. In addition, a high level of motivation for learning is generated, and the game should therefore be more effective than conventional classroom instruction.

In addition to the basic hypothesis, this study attempts to determine whether there is a relationship between the effectiveness of the simulation learning game method and the student's I.Q., sex, and major program of study.

METHODOLOGY

The subjects were the entire twelfth grade of a senior high school. (The experiment was confined to a senior class in one school in order to minimize differences in age, course of study, background, community environment influences, and other environmental factors influencing the students.) A total of 280 students received instruction through their Problems of Democracy class in a unit entitled "consumer Use of Installment Credit." The total group consisted of 132 male and 148 female twelfth grade students.

Some classes, with their regular teachers, were experimental (game) groups; some were control (conventional instruction) groups. This was necessary for the experiment to be seen by the subjects as a part of

the normal school activity. Assignment to class groups in the school is based on the student's major, either College Preparatory or General Education. In addition, some students in the General Education group were Business Education students. The College Preparatory group included 218 students and the General Education group included 152 students. There were 160 students in the experimental group and 120 students in the control group. These groups were approximately equally divided among the College Preparatory and General Education classes. Table 1 indicates the number of classes and students assigned to the different groups.

TABLE 1

SUMMARY OF ASSIGNMENT OF CLASSES TO EXPERIMENTAL AND CONTROL GROUPS

	Experimental		Control		Total
	Classes	Students	Classes	Students	Students
College Preparatory	2	67	2	61	128
General Education	4	93	2	59	152
TOTALS	6	160	4	120	280

The 280 students were taught through ten sections of classes in Problems of Democracy by three different teachers. Each teacher taught the sections

by both the experimental and control method. The experiment was organized to attain the effects of randomness in terms of students' I.Q., to have an equal portion of both College Preparatory and General Education students in each of the groups, and to have students in both groups exposed to whatever biases might come from the three teachers. Table 2 indicates the assignments of the three teachers to the experimental and the control classes.

TABLE 2

SUMMARY OF TEACHERS ASSIGNMENT TO EXPERIMENTAL AND CONTROL GROUPS OF STUDENTS

Teacher	Experimental Classes Taught	Number of Students	Control Classes Taught	Number of Students
1	2	55	1	24
2	3	84	2	75
3	1	21	1	21
TOTALS	6	160	4	120

The teachers were instructed to teach the conventional sections with their usual style and their best ability. While the sequence and process were somewhat different on the part of each teacher, the pattern of instruction was similar. Students in the control classes were assigned readings in two resources[1] provided for them. They answered questions

drawn from the material, studied the vocabulary of installment credit, gave oral reports on material extracted from the resources, read actual installment credit contract forms, figured rates of interest, discussed the meanings of the various contract conditions, and assembled notebooks on the use of credit in the American economy.

Following the introduction (which was the same for all sections), the students in the experimental classes selected the roles they would play in the CONSUMER game. The game was introduced, instructions presented for playing, and playing routines clarified. The students played the game through eight rounds (each round representing one month) during the course of two class meetings. The teachers then led the students in a discussion of credit contracts, interest rates, contract terms and conditions, and game strategy. The discussion used one to one-and-a-half class periods, dependent upon the time required for completing the first game; each play of the game requires approximately 90 minutes. Following the discussion the students played the game a second time, with each student playing the same role as the first time. The second game used most of two class meetings but allowed time for a discussion session afterwards. The experimental instruction time was limited to six class meetings, the same time allotted for the conventional instruction classes.

Two tests were administered to the students at the end of the unit of instruction. The first[2] was a paper-pencil knowledge test calling for vocabulary identification, application of principles, subject

matter recall, and identification of attitudes and values growing out of the unit of instruction. The test consisted of fifteen multiple choice items and thirty true-false items, for a total of 45 possible correct responses. The test was conceived as a natural outgrowth of the conventional technique of instruction. The reliability of the test is .637 by Kuder-Richardson Formula 20 as administered to all the subjects, .653 when computed from the administration of the test to the experimental group only, and .620 when computed from the control group only.

The second measurement instrument, "To Buy a Car"[3] was designed by the investigator to require from the student the behavior desired as a result of instruction--"As a result of this unit of study the student, when faced with the need to borrow money on an installment plan for the purchase of a major durable good, will explore available sources of credit, and upon selecting the source of credit offering him the lowest rate for the money borrowed, will sign an installment credit contract that is to his best advantage."

For this measurement of behavior, the students were placed in a simulated environment which confronted them with the need to buy a car and to borrow money on an installment plan for it. Students were given income and expenses, a choice of buying one of three different cars, and three lending agencies to finance the purchase. This test consisted of a record of how many lending agencies each student talked to, and a signed contract showing the terms and conditions to which the student

agreed. Since the students had actually to perform the two behaviors of comparing and selecting in order to earn any score, the test encouraged the students to behave accordingly; the extent or quality of that behavior is shown by the Comparison Frequency Score (how many credit sources were checked before selecting) and the Contract Rating Score[4] (how good the contract was according to terms and conditions favoring the buyer). This behavioral measurement instrument was devised as a simulated method of measuring the extent to which a student has learned a defined set of behaviors and is able to generalize that learning to another comparable experience. The concept of measuring learned behavior through a simulated real-life experience following the period of instruction is a pilot endeavor of this study.

In an attempt to establish a measure of reliability of the instrument, "To Buy a Car," a 20 percent random sample was identified for retest using previously assigned student identification numbers. The retest was administered six weeks after the experiment. The time lapse minimized the practice effect of the test, since it called for demonstrated behavior. The results of the retest, however, revealed a latent learning effect rather than a consistency measurement.

Table 3 presents the original score and the retest score for each member of the sample. It should be noted in reading Table 3 that "4" is the best possible Comparison Frequency Score because it shows that all available sources of credit were checked and compared; "2" is the best possible Contract Rating Score because it indicates the least number of negative terms and conditions for the borrower.

TABLE 3

ORIGINAL SCORE AND RETEST SCORE ON TWO CRITERION MEASURES, COMPARISON FREQUENCY SCORE AND CONTRACT RATING SCORE AS BASIS FOR COMPUTING PEARSON'S PRODUCT MOMENT CORRELATION COEFFICIENT
SAMPLE SIZE = 43

Student Identification Number	COMPARISON FREQUENCY SCORE		CONTRACT RATING SCORE	
	Original	Retest	Original	Retest
001	4	3	3	2
009	4	3	3	2
010	4	3	5	2
018	3	3	5	2
026	1	2	5	2
027	1	2	3	2
028	1	1	5	2
032	2	2	2	2
034	4	3	5	2
036	2	2	4	2
040	2	2	5	3
048	3	3	5	3
054	1	3	5	2
058	1	3	5	4
061	3	2	5	5
065	1	3	4	3
098	3	3	3	5
100	4	3	2	5
110	1	3	3	2
114	1	2	4	2
124	1	2	2	3
126	1	3	3	2
128	3	3	2	2
129	3	3	4	3
133	1	1	5	3
140	1	2	4	5
144	2	2	2	2
149	2	3	2	2
153	1	2	5	2
164	2	2	2	2
167	1	1	2	2
171	2	1	2	2
187	3	3	4	2
188	3	3	4	3
206	3	3	4	2
213	3	2	5	2
219	1	2	2	2
224	1	2	5	2
226	3	3	5	2
243	2	3	5	2
247	4	2	5	2
248	3	3	3	2
249	1	1	3	3
	Mean = 2.16	2.40	3.74	2.51

The test-retest comparison yielded a correlation coefficient of .500 for the Comparison Frequency Score and a correlation coefficient of .340 for the Contract Rating Score using Pearson's original score formula. The latent learning effect deserves further study, but was not pursued herein. The scores on each of the measures indicates an improved performance on the retest.

At the completion of the experiment when all data were assembled, complete records were available for 208 of the 280 student population. Criteria scores were not available for 30 students who served a leadership role in the conduct of "To Buy a Car;" the remaining students were either absent during the instruction period, or during the test periods, or had withdrawn from the school. The effective sample size for the experiment then is 208 students, consisting of 118 students in the experimental group and 90 students in the control group.

The three criterion scores were collected on the seventh and eighth days of the experiment, following the six days of instruction. On the seventh day the Knowledge Test was administered to all students. The score on this test was used as an indicator of the extent of learning to answer factual information multiple choice and true-false questions related to the use of installment credit (the first defined behavior). "To Buy a Car" was administered to all students on the eighth day. This test resulted in two scores: the Comparison Frequency Score to measure the second defined behavior and the Contract Rating Score to measure the third defined behavior.

RESULTS

The research hypothesis that students who are taught the use of installment credit through a simulation learning game will demonstrate

three specifically defined behaviors to a greater extent than students taught through conventional classroom approaches was rejected. Analysis of variance between the two treatment groups on five criteria -- I.Q. and Age (to measure the equality of the groups), Knowledge Test Score (to measure behavior 1), Comparison Frequency Score (to measure behavior 2), and Contract Rating Score (to measure behavior 3) -- revealed no statistically significant differences (at the .05 level) between the treatment groups. Table 4 presents the means and standard deviations of the two groups on the five criteria.

TABLE 4

COMPARISON OF TREATMENT GROUPS ON ANTECEDENT AND POST-TEST MEASURES

Scores	Game (n = 118) Mean	S.D.	No Game (n = 90) Mean	S.D.	F	P
I.Q.	105.9237	13.6019	105.4222	13.9146	0.0680	N.S.
Age	17.2458	0.5838	17.1889	0.5170	0.5344	N.S.
Knowledge Test	31.3983	4.5331	31.8444	3.9969	0.5472	N.S.
Comparison Frequency	2.2627	1.1127	2.2444	1.0419	0.0145	N.S.
Contract Rating *	3.6441	1.1586	3.4333	1.2724	1.5510	N.S.

* A low contract score is desirable. (d.f. = 1,206)

The I.Q. and age similarities show that the two treatment groups were alike on these criteria even though random group assignment was not

possible. The almost identical mean scores for demonstrated knowledge and behavior indicates that although the hypothesis of "more effective learning" through game participation was rejected, there is evidence that teaching knowledge and behavior through a simulation learning game is at least as effective as through conventional classroom approaches.

In order to determine whether there was a relationship between the effectiveness of the method of instruction and the student's I.Q., sex, and major program of study, the data were regrouped and subjected to further analysis of variance and covariance. Analysis of variance revealed significant differences between male and female students on I.Q., Knowledge Test Scores, and Comparison Frequency Scores as shown in Table 5. There were no differences on the Contract Rating Score.

TABLE 5

COMPARISON OF MALE AND FEMALE
SUBJECTS ON I.Q. AND POST-TEST MEASURES

Scores	Males (n = 87) Mean	S.D.	Females (n = 121) Mean	S.D.	F	P
I.Q.	102.4368	14.1337	108.0579	12.9462	8.8835	.01
Knowledge Test	30.5402	4.3903	32.3407	4.0962	9.2721	.01
Comparison Frequency	1.7356	0.9208	2.6281	1.0339	40.3112	.001
Contract Rating *	3.5057	1.8100	3.5868	1.2361	0.2259	N.S.

* A low contract score is desirable. (d.f. = 1,206)

Because sex and I.Q. are related, analysis of covariance was used to determine if any of the difference was attributed to method of instruction. Analysis of covariance holding I.Q. constant revealed that I.Q. accounts for the difference between male and female students on the Knowledge Test Score, but method of instruction accounts for the difference (significant at the .001 level) between male and female students on the behavior of comparing available sources of credit before signing a contract. Table 6 presents the mean scores on the two post-test measures between the male and female students according to method of instruction and the F-ratio resulting from analysis of covariance holding I.Q. constant.

TABLE 6

COMPARISON OF METHOD OF INSTRUCTION BY STUDENT SEX
ON POST-TEST MEASURES
(I.Q. HELD CONSTANT)

	Game		No Game			
Scores	Male (n=46)	Female (n=72)	Male (n=41)	Female (n=49)	F	P
I.Q.	105.6739	106.0833	98.8049	110.9592		
Knowledge Test	31.2391	31.5000	29.7561	33.5918	1.733	N.S.
Comparison Frequency	1.8261	2.5417	1.6341	2.7551	10.892	.001

(d.f. = 2,205)

Further analysis of variance on the data relevant to the method of instruction and student's major revealed significant differences between students in the college preparatory, business education, and general education programs of study on I.Q., Knowledge Test Scores, and Comparison Frequency Scores as shown in Table 7.

Because a student's major program of study and I.Q. are related, analysis of covariance was used to determine if any of the differences were attributed to method of instruction. Analysis of covariance holding I.Q. constant revealed that I.Q. accounts for the difference on the Knowledge Test Score, but that method of instruction accounts for the differences (significant at the .001 level) between college preparatory, business education, and general education students on the Comparison Frequency Score. Table 8 presents the mean scores on the two post-test measures between the college preparatory, business education, and general education students according to method of instruction and the F-ratio resulting from analysis of covariance holding I.Q. constant.

DISCUSSION

The findings of this experiment indicate that learning to answer factual questions related to the use of installment credit (the first defined behavior) is accomplished as effectively by the simulation learning game as by the conventional classroom approach. There was no significant difference in the mean Knowledge Test Score results between male and female students and there was no significant difference in results between college preparatory, business education, and general education students. Within the confines of this experiment it can be

TABLE 7

COMPARISON OF COLLEGE PREPARATORY, BUSINESS EDUCATION
AND GENERAL EDUCATION STUDENTS ON I.Q. AND POST-TEST MEASURES

Scores	College Preparatory (n = 105)		Business Education (n = 56)		General Education (n = 47)		F	P
	Mean	S.D.	Mean	S.D.	Mean	S.D.		
I.Q.	114.4667	11.0689	98.8393	8.7610	94.3191	10.5647	77.8945	.001
Knowledge Test	33.4286	3.7873	30.2679	4.2233	29.0638	3.6440	25.0228	.001
Comparison Frequency	2.5143	1.0295	2.2321	1.0786	1.7021	0.9981	9.9941	.001
Contract Rating *	3.6190	1.1551	3.4643	1.3068	3.5106	1.2312	0.3332	N.S.

* A low contract score is desirable (d.f. = 2,205)

TABLE 8

COMPARISON OF METHOD OF INSTRUCTION BY STUDENT'S MAJOR
ON POST-TEST MEASURES
(I.Q. HELD CONSTANT)

	Game			No Game				
	College Preparatory	Business Education	General Education	College Preparatory	Business Education	General Education	F	P
I.Q.	114.3729	97.2895	97.8095	114.5870	102.1111	95.5000		
Knowledge Test	33.3051	29.4471	29.5714	33.5870	32.0000	28.6538	0.757	N.S.
Comparison Frequency	2.2203	2.3158	2.2857	2.8913	2.0056	1.2308	6.040	.001

(d.f. = 2,205)

concluded that the behavior of learning to answer factual information multiple choice and true-false test items is learned as well through a simulation learning game as through the conventional classroom approach.

The second defined behavior, learning to compare available sources of credit before selecting one source of credit, was found to be demonstrated to a greater extent by females taught by either method of instruction than it was by males. Females taught by the conventional approach demonstrated this behavior to a greater extent than females taught by the simulation learning game. Males who were taught this behavior by the simulation learning game demonstrated the process of comparing available sources of credit to a greater extent than males who were taught by the conventional approach. College preparatory students taught by either method of instruction demonstrated this behavior to a greater extent than other students, but the business education and general education students who were taught this behavior through participation in the simulation learning game demonstrated it to a greater extent than business education and general education students taught by the conventional approach. Within the confines of this experiment it can be concluded that the simulation learning game is the more effective classroom technique for teaching males the behavior of comparing available sources of credit before selecting one, and that the students whose major is Business Education or General Education learn this behavior to a greater extent through participation in the simulation learning game than through the conventional classroom approach.

IMPLICATIONS

These findings and conclusions have direct implications to the related research reported. The fact that there was no significant difference between the two groups in learning factual information directly supports Boocock's (1967) studies which indicated information of a factual nature is learned through participation in a simulation learning game. This study shows that learning factual information about installment credit through a simulation learning game is as effective as learning factual information about installment credit by reading, discussing, and reporting about the use of installment credit in a conventional classroom approach.

A second implication from this study concerns the definition of behavioral objectives as expected results from the play of a simulation game. One of the weaknesses of evaluatory research in simulation learning games identified by Cherryholmes (1966: p. 5) was the need to specify what a set of game materials is designed to teach and then to develop an instrument to measure whether the objective had been accomplished. Zaltman (1966) identified expected results from the play of the game CONSUMER. These results were rephrased into behavioral terms for the purpose of this study and this investigator designed an instrument to measure the behavior described in the game goals. This study suggests that it is possible to define and measure behavioral outcomes expected from a simulation learning game. Different kinds of learning were defined and measured separately. To the extent that this experiment has been valid, it implies the need for additional research into the learning

of behavioral objectives through simulation learning games that require the behavior identified as a learning goal.

FOOTNOTES

[1]Each student in the control group worked with the two following resources: Using Our Credit Intelligently, William J. Cheyney, National Foundation for Consumer Credit, Washington, D. C., 1967. When You Use Credit, U. S. Department of Agriculture, U. S. Government Printing Office, 1965.

[2]See Appendix A for the paper-pencil knowledge test used to measure demonstration of learning the behavior of answering multiple choice and true-false test questions related to the use of installment credit.

[3]See Appendix B for the behavioral measurement instrument "To Buy a Car" used to measure the demonstration of comparing available sources of credit and selecting and signing a credit contract with terms and conditions most favorable to the borrower.

[4]See Appendix C for the Rationale for the contract ratings, the contract evaluation criteria and rating scale, and the summary of contract rating scores.

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APPENDIX A

NAME _____

CONSUMER CREDIT

Multiple Choice Ouestions:

DIRECTIONS Read the beginning statement for each item below then mark on the answer sheet the letter of your choice that represents the best response. Mark only one choice for each item.

1. Principal is
   - A the cost of borrowing money
   - B the total amount the borrower repays
   - C the amount borrowed or financed
   - D the selling price of the goods purchased

2. The credit charge of an installment loan is
   - A interest only
   - B the total cost of borrowing the money
   - C interest and penalty charges
   - D the total amount for repayment

3. An installment is
   - A the same as the down payment
   - B a charge for the use of someone's money
   - C the contract evidencing a legal debt
   - D one of a series of payments at regular intervals

4. The range of true annual interest rate for installment credit is usually
   - A 1 to 3 per cent
   - B 3 to 6 per cent
   - C 6 to 12 per cent
   - D 12 to 36 per cent

5. The unpaid balance on the purchase of a color TV was $180. The merchant agreed to a 9 month repayment plan with a service charge of $2.50, life insurance charge of $2.00, and interest on the unpaid balance of $10.80. What is the cost of this credit contract?
   - A $180.00
   - B 2.50
   - C 15.30
   - D 10.80

6. Which arrangement represents the lowest true annual interest rate?
   - A $300 at 1 1/2% per month for 6 months
   - B $300 at 6% per year for 6 months
   - C $300 discounted at 6% for a 6 month loan
   - D each of the above represents an equal rate

7. Title to goods purchased on a conditional sales contract transfers to the purchaser
   - A at the time of signing the contract
   - B upon delivery of the goods to the purchaser
   - C upon payment of the full amount of the contract
   - D upon sale of the contract by the seller of the goods

8. A service charge on an installment loan is the
   - A amount charged for cost of processing the contract
   - B interest on the principal
   - C amount charged for late payment
   - D fee necessary to record the title of property

9. On a conditional sales contract granting the seller the right to reclaim property purchased, the seller is entitled to
   - A repossession of goods
   - B remittal of fees
   - C reduction of credit extended
   - D retain the goods until full payment

10. Which arrangement represents the lowest interest cost?
   - A $300 at 1 1/2% per month for 6 months
   - B $300 at 6% per year for 6 months
   - C $300 discounted at 6% for a 6 month loan
   - D each of the above represents an equal cost

11. In which one of the following types of credit is the cost of credit reflected in the price of merchandise purchased by all customers?
   - A revolving charge account
   - B 30-day charge account
   - C installment sales account (contract)
   - D bank line of credit

12. "In case of any default in the performance of the terms and conditions hereof, the seller shall have the right to declare the full unpaid amount immediately due and payable." This sentence in a contract means:
   - A seller can demand full payment at any time
   - B buyer has the right to withhold payment if purchased goods are faulty
   - C seller has the right to demand full payment if buyer does not fulfill the contract conditions
   - D buyer agrees to pay total amount of unpaid balance at seller's request

13. "Until the entire amount of the note is paid, Maker agrees that Lender shall retain title and right of possession of designated collateral, and that Maker will not sell, remove, or encumber it." This sentence in a contract means:
   - A title of designated collateral is transferred from seller to buyer at time of sale
   - B physical possession of the designated collateral is retained by the lender until full payment is received
   - C lender has physical possession of the collateral; Maker has title
   - D maker has physical possession of the collateral; Lender has title

14. "Until the entire amount of the note is paid, Maker agrees that Lender shall retain title and right of possession of designated collateral, and that Maker will not sell, remove, or encumber it." This sentence in a contract means:
    - A lender may sell the collateral under certain conditions
    - B maker may borrow additional funds on the designated collateral
    - C lender may demand full payment at any time
    - D maker may sell the collateral at his discretion

15. Jack signed a note for $350 covering the purchase of his first car. During the last 5 months he had paid $150 of the note, but was then laid-off his job. After missing two payments, the Lender sold Jack's car to another buyer for $150. The following clause is in the contract Jack signed for the original purchase of the car: "If the Buyer becomes default in making any payments as herein provided, the Lender may repossess said purchase and offer it for resale; the Lender agrees to credit the resale price to the then existing Time Balance and the Buyer agrees to pay the full amount of the unpaid balance and costs of repossession up to 15% of the unpaid Time Balance." Which item below defines Jack's current situation?
    - A Jack (the Buyer) has no further legal obligation to the Lender
    - B Jack can sue the Lender for breech of contract
    - C Jack owes the Lender $50 plus costs up to $30.00
    - D Jack owes the Lender 15% of $50.00

<u>True-False Questions:</u>

DIRECTIONS - After reading each item below, mark the T on the answer sheet if you believe the item is True; mark the F if you believe the answer is False.

16. Credit tends to destroy the traditional American instinct for thrift and encourages people to spend themselves into bankruptcy.

17. Borrowing money at the bank is a type of credit.

18. A charge account is usually payable within 30 days.

19. With a charge account you receive title to the goods at the time of purchase.

20. A down payment is customary when purchasing on the installment plan.

21. On a conditional sales contract you receive title to the goods at the time of purchase.

22. Merchants must have enough money to pay cash for all the goods they purchase to sell to consumers.

23. Merchants may not sell your installment contract to another financing institution.

24. A minor may buy goods on the installment plan without a co-signer.

25. One who buys on credit is a poor manager of his money.

26. The "true" annual interest rate and the "stated" interest rate on an installment purchase is the same.

27. If you borrow $100 at the bank at 6% and the note you sign is discounted, you receive $100 and pay back $106.00.

28. A mortgage is an example of long-term credit.

29. Merchants prefer that customers pay cash for the goods they buy.

30. One should always pay cash for everything he buys if cash is available at the time of purchase.

31. Installment buying provides opportunity to purchase products when needed most.

32. Each item, product, or service you buy is bought with the expectation that it will provide you with a certain amount of satisfaction.

33. When money is not available to meet obligations, it may be necessary to give up something you own.

34. There is an interest or credit charge on all installment transactions with a bank, finance company, or department store.

35. If you want to pay back a debt earlier than originally contracted, the contract would indicate whether or not you are entitled to a reduction in interest charges.

36. When you borrow from a bank or finance company, you get cash to use for your purchase.

37. When you buy on a charge account from a department store, you must make a down payment with cash before credit is extended on your purchases.

38. If a financial institution has been misleading in making an arrangement with you, you may take that company to court.

39. There are frequent events in your life involving money which you cannot plan for or do not have control over.

40. Financial institutions compete against one another to make as many satisfactory lending transactions as they can.

41. The cost of credit does not vary from one lending agency to another.

42. The loaning of money is a source of income for the lending agency.

43. At any salary level, income is limited.

44. The personal desire for certain products and services changes over a period of time.

45. The need for a product or service at a particular time justifies the expense of buying that product on credit.

APPENDIX B

MANUAL "TO BUY A CAR" . . .

. . . an instrument designed to measure the extent of behavior learned in a unit of instruction on Consumer Use of Installment Credit.

The specific behaviors to be measured as a result of the unit of study are the ability to:

1. compare available sources of credit before selecting one source of credit; and

2. select and sign a credit contract with terms and conditions most favorable to the borrower.

"TO BUY A CAR"

GENERAL INSTRUCTIONS--(to be read to class)

"To Buy a Car" is a game which places the player in the position of being a young person who has limited income and resources, and who desires to buy an automobile. In order to buy an automobile each player must select one of three automobiles of various prices (any one of which will fulfill his defined need) and then make decisions relative to financing the purchase of the automobile of his choice. Three lending agency representatives are available with varying plans for loaning money for the purchase of an automobile.

The game is designed to be played in a school classroom where students have been learning about installment credit and its uses. Three students must play the role of the three lending agency representatives, while all other students engage in the activities of borrowing money from the lending institutions in order to purchase a car. The lending agency representatives have various plans available for financing each of the cars.

Each lending agency representative has a Profile sheet describing his function and defining the installment terms he may offer for each of the three automobiles. Each agency has three alternate financing plans for each of the three automobiles. He also has a stand-up advertising sign to identify his agency to the potential borrowers. The three students playing the role of the lending agency representative should be placed in three different areas of the room so the other students can move from one agent to another in their attempt to select an installment plan to buy the automobile of their choice.

The students playing the role of the buyers of automobiles will each receive a Buyer's Profile which establishes their role. After reading the Buyer's Profile the students should talk with the lending agency representatives in order to select a financing plan that is most satisfying to their position as defined in the Buyer's Profile.

After selecting a financing plan for a particular automobile, the buyer will sign a contract which indicates he agrees to all the terms and conditions contained therein. The lending agency representative will give each buyer a copy of the contract. If the buyer talks with a lending agency representative, but does not sign a contract, the lending agency representative marks the box at the bottom of the student profile sheet. The lending agency representative should mark the buyer's profile sheet with a 1, 2, or 3 to indicate the order in which the buyer talked with him relative to financing plans. If any buyer decides after shopping for credit that he will not buy an automobile, he should be asked to write the reasons for his decision on the back of his profile sheet and hand it to the teacher.

All students should plan to complete their transactions within the class period. Upon completion of play, each buyer must turn his Profile Sheet in to the teacher and each lending agency representative must turn in their copies of all signed contracts.

BUYER'S PROFILE

TO BUY A CAR: _____
Name

During the past summer you were employed for ten weeks at $75 a week. You saved $600 during the summer to help pay costs of going to college in the Fall. You and your parents agreed that you would pay $300 of school costs each year and they would pay the remainder, but they could not provide you with spending money. Now, in early September, you are enrolled in college, have a part-time job which nets you $15 a week income. Your school tuition, room and board, and book expenses for the year have been paid and you have an adequate wardrobe. You also have $300 left in the bank from your summer earnings and you decide to buy a car to make it easier to travel back and forth from school to work. Assume you are of legal contract age; buy the car.

After thoroughly looking around for the automobile you want, you narrow the choices down to the following three cars. Each car is a make and model that you would enjoy owning; each car is mechanically sound and an acceptable buy for the price; each one will provide you adequate transportation. Your problem now is to select <u>one</u> car and secure financing to purchase the car. Various financing plans are available from City Auto Loans, State Auto Loans, and Midvale Auto Loans. As soon as you have signed a contract with any one of the lending agencies, the car is yours--enjoy it.

	Auto 1	Auto 2	Auto 3
Purchase price Including Sales Tax	$650.00	$600.00	$550.00
Cost of Auto Tags and Title	20.00	20.00	20.00
Automobile Insurance for 12 Months	150.00	135.00	135.00
	$820.00	$755.00	$705.00

City Auto Loans	State Auto Loans	Midvale Auto Loans

LENDING AGENCY PROFILE I Midvale Auto Loans

NO DOWN PAYMENT LONG TIME TO PAY

YOUR JOB:

As the automobile loan officer for your company, your job is to lend money.

Persuade automobile buyers to borrow money from you to finance their car. The more money you lend, the more money you earn.

Your job is to help each client to finance the purchase of the automobile of his choice. You should discuss the term of repayment, the amount of interest, and the amount of the monthly payment. Your big selling factor is that you require no down payment.

Read over the contract form so you can answer questions if a client asks you about the contract conditions. You may find it necessary to tell a client the rate of interest is not important--you offer money with "no down payment and a long time to pay."

SUGGESTED PROCEDURE:

Find out which car your client wants to buy. You have different financing plans for each car.

Find out how much money your client wishes to borrow. You may have to offer him arrangements other than his choice.

Find out how much he can pay a month. If he pays for a longer period of time, his monthly payments will be lower.

After you and the client have agreed to the terms and conditions of one of the contracts, have him sign both copies of the contract (top and bottom of one sheet). Cut the sheet in half.

You keep one copy and he keeps one copy of the contract.

It is assumed that both of you are of legal contract age.

CONTRACT TERMS AND CONDITIONS

AUTOMOBILE 1	Contract A 1-A	Contract B 1-B	Contract C 1-C
Selling Price	$820.00	$820.00	$820.00
Amount of Down Payment	None	None	None
Amount of Loan	$820.00	$820.00	$820.00
Amount of Monthly Payment	(11 @ $ 75.00 (1 @ $ 74.93	(12 @ $ 54.88 (1 @ $246.40	(17 @ $ 52.05 (1 @ $ 52.00
Total Number of Payments	12	13	18
Additional Charges	None	None	Insurance in 12th $ 75.00 month
Interest Dollar Cost	$ 79.93	$ 84.96	$116.85
AUTOMOBILE 2	2-A	2-B	2-C
Selling Price	$755.00	$755.00	$755.00
Amount of Down Payment	None	None	None
Amount of Loan	$755.00	$755.00	$755.00
Amount of Monthly Payment	(12 @ $ 69.05	(12 @ $ 54.88 (1 @ $173.60	(17 @ $ 47.92 (1 @ $ 47.95
Total Number of Payments	12	13	18
Additional Charges	None	None	Insurance in 12th $ 67.50 month
Interest Dollar Cost	$ 73.61	$ 77.10	$107.59
AUTOMOBILE 3	3-A	3-B	3-C
Selling Price	$705.00	$705.00	$705.00
Amount of Down Payment	None	None	None
Amount of Loan	$705.00	$705.00	$705.00
Amount of Monthly Payment	(12 @ $ 64.48	(12 @ $ 45.70 (1 @ $229.60	(18 @ $ 44.64
Total Number of Payments	12	13	18
Additional Charges	None	None	Insurance in 12th $ 67.50 month
Interest Dollar Cost	$ 68.74	$ 73.00	$ 98.55

LENDING AGENCY PROFILE II City Auto Loans

LOW COST AUTO LOANS ONLY 1/3 DOWN

YOUR JOB:
As the automobile loan officer for your company, your job is to lend money.

Persuade automobile buyers to borrow money from you to finance their car. The more money you lend, the more money you earn.

Your job is to help each client to finance the purchase of the automobile of his choice. You should discuss the term of repayment, the amount of interest, and the amount of the monthly payment. Your big selling factor is that you have low cost auto loans.

Read over the contract form so you can answer questions if a client asks you about the contract conditions. You may find it necessary to tell a client the rate of interest is not important--you offer money at a "low cost with only 1/3 down."

SUGGESTED PROCEDURE:
Fine out which car your client wants to buy. You have different financing plans for each car.

Find out how much money your client wishes to borrow. You may have to offer him arrangements other than his choice.

Find out how much he can pay a month. If he pays for a longer period of time, his monthly payments will be lower.

After you and the client have agreed to the terms and conditions of one of the contracts, have him sign both copies of the contract (top and bottom of one sheet). Cut the sheet in half.

You keep one copy and he keeps one copy of the contract.

It is assumed that both of you are of legal contract age.

CONTRACT TERMS AND CONDITIONS

AUTOMOBILE 1	Contract A 1-A	Contract B 1-B	Contract C 1-C
Selling Price	$820.00	$820.00	$820.00
Amount of Down Payment 1/3	$273.00	$273.00	$273.00
Amount of Loan	$547.00	$547.00	$547.00
Amount of Monthly Payment	9 @$ 64.43	12 @$ 49.23	12 @$ 41.04 6 @$ 34.04
Total Number of Payments	9	12	18
Additional Charges 6 mos. insurance charges	None	None	12 monthly payments include $7.00/month
Interest Dollar Cost	$ 32.87	$ 43.76	$ 65.72
AUTOMOBILE 2	2-A	2-B	2-C
Selling Price	$755.00	$755.00	$755.00
Amount of Down Payment 1/3	$250.00	$250.00	$250.00
Amount of Loan	$505.00	$505.00	$505.00
Amount of Monthly Payment	9 @$ 59.48	12 @$ 45.45	12 @$ 37.42 6 @$ 31.42
Total Number of Payments	9	12	18
Additional Charges 6 mos. insurance charges	None	None	12 monthly payments include $6.00/month
Interest Dollar Cost	$ 30.32	$ 40.40	$ 60.56
AUTOMOBILE 3	3-A	3-B	3-C
Selling Price	$705.00	$705.00	$705.00
Amount of Down Payment 1/3	$235.00	$235.00	$235.00
Amount of Loan	$470.00	$470.00	$470.00
Amount of Monthly Payment	9 @$ 55.36	12 @$ 42.30	12 @$ 35.24 6 @$ 29.24
Total Number of Payments	9	12	18
Additional Charges 6 mos. insurance charges	None	None	12 monthly payments include $6.00/month
Interest Dollar Cost	$ 28.24	$ 37.60	$ 56.32

LENDING AGENCY PROFILE III State Auto Loans

SMALL DOWN PAYMENT LOW MONTHLY PAYMENTS

YOUR JOB:

As the automobile loan officer for your company, your job is to lend money.

Persuade automobile buyers to borrow money from you to finance their car. The more money you lend, the more money you earn.

Your job is to help each client to finance the purchase of the automobile of his choice. You should discuss the term of repayment, the amount of interest, and the amount of the monthly payment. Your big selling factor is your low monthly payments.

Read over the contract form so you can answer questions if a client asks you about the contract conditions. You may find it necessary to tell a client the rate of interest is not important--you offer money with "small down payments and low monthly payments."

SUGGESTED PROCEDURE:

Find out which car your client wants to buy. You have different financing plans for each car.

Find out how much your client wishes to borrow. You may have to offer him arrangements other than his choice.

Find out how much he can pay a month. If he pays for a longer period of time, his monthly payments will be lower.

After you and the client have agreed to the terms and conditions on one of the contracts, have him sign both copies of the contract (top and bottom of one sheet). Cut the sheet in half.

You keep one copy and he keeps one copy of the contract.

It is assumed that both of you are of legal contract age.

CONTRACT TERMS AND CONDITIONS

AUTOMOBILE 1	Contract A 1-A	Contract B 1-B	Contract C 1-C
Selling Price	$820.00	$820.00	$820.00
Amount of Down Payment	$250.00	$250.00	$250.00
Amount of Loan	$570.00	$570.00	$570.00
Amount of Monthly Payment	12 @ $ 53.20	18 @ $ 41.61	24 @ $ 35.70
Total Number of Payments	12	18	24
Additional Charges	None	Includes	Includes
6 mos. insurance		$4.25 per month	$6.25 per month
Interest Dollar Cost	$ 68.40	$102.60	$136.80
AUTOMOBILE 2	2-A	2-B	2-C
Selling Price	$755.00	$755.00	$755.00
Amount of Down Payment	$250.00	$250.00	$250.00
Amount of Loan	$505.00	$505.00	$505.00
Amount of Monthly Payment	12 @ $ 47.13	18 @ $ 36.68	24 @ $ 31.74
Total Number of Payments	12	18	24
Additional Charges	None	Includes	Includes
Insurance: B- 6 mos. C- 12 mos.		$3.75 per month	$5.65 per month
Interest Dollar Cost	$ 60.60	$ 90.90	$121.20
AUTOMOBILE 3	3-A	3-B	3-C
Selling Price	$705.00	$705.00	$705.00
Amount of Down Payment	$250.00	$250.00	$250.00
Amount of Loan	$455.00	$455.00	$455.00
Amount of Monthly Payment	9 @ $ 55.11	12 @ $ 42.47	18 @ $ 33.58
Total Number of Payments	9	12	18
Additional Charges	None	None	Includes
6 mos. insurance			$3.75 per month
Interest Dollar Cost	$ 40.95	$ 54.60	$ 81.90

SAMPLE OF CONTRACT FORM FOR MIDVALE AUTO LOANS

MIDVALE AUTO LOANS CONTRACT _____

N O T E

Principal $_____ Monthly Payment $_____ Number of Months _____

In accordance with the conditions of the Uniform Small Loan Law, from each payment made hereon, interest shall first be deducted and the remainder of such payment shall be applied on the unpaid principal. Resulting adjustments, if any, shall be made in the final installment.

The undersigned agrees to pay Midvale Auto Loans Company said principal together with interest at the above rate until fully paid.

The principal amount hereof may be paid at any time with interest at the agreed rate to the date of payment.

In case an installment payment cannot be met in full or in case the borrower attempts to sell any property pledged as collateral for this loan without the consent of the lender, the entire unpaid balance including interest shall become immediately due without any notice if the lender so desires.

Collateral provided for this loan is identified as _____ _____ and the undersigned agrees that title to said collateral resides with the Midvale Auto Loans Company until payment in full is received as indicated above.

_____ BUYER (Seal) _____
Date

(Seal) _____
Midvale Auto Loans Company

Variable data for Midvale contracts is shown on Lending Agency Profile I, page ____. There are three alternative financing arrangements for each automobile - 12, 13, or 18 months. This data is filled in on the contract blanks; the borrower is given a copy of the contract after he signs it. The lending agent also keeps a copy.

SAMPLE OF CONTRACT FORM FOR CITY AUTO LOANS COMPANY

N O T E CITY AUTO LOANS COMPANY CONTRACT _____

For value received, I promise to pay to the order of CITY AUTO LOANS COMPANY the sum of _____ Dollars ( ) in _____ installments on this date of next month, and an equal amount on the same date each month thereafter until the entire amount is paid, except as stated herein _____.

Upon failure to make any payment as herein agreed, this note shall, at the option of its holder, become immediately due and payable without demand or notice.

If any installment of this note is not paid in full when due, Maker agrees to pay a "late charge" not to exceed 5% of any payment which is not paid within 15 days of the due date. The Maker further has the right to pay off in advance the full amount due and to obtain a partial refund of finance or time charge.

Until the entire amount of this Note is paid, Maker agrees that CITY AUTO LOANS COMPANY shall retain title and right of possession of _____ _____ and that Maker will not sell, remove, or encumber it and shall be responsible for all loss or damage to said automobile.

_____ Date

MAKER (Seal) _____

(Seal) _____ City Auto Loans Company

Variable data for City contracts is shown on Lending Agency Profile II, page ____. There are three alternative financing arrangements for each automobile - 9, 12, or 18 months. This data is filled in on the contract blanks; the borrower is given a copy of the contract after he signs it. The lending agent also keeps a copy.

SAMPLE OF CONTRACT FORM FOR STATE AUTO LOANS COMPANY

STATE AUTO LOANS COMPANY CONTRACT _____

C O N D I T I O N A L S A L E S A G R E E M E N T between STATE AUTO LOANS COMPANY and _____ covering the purchase of _____. Buyer agrees to pay the Time Balance of $ _____ at State Auto Loans Company in _____ consecutive monthly payments of $ _____ beginning one month from date hereof.

Title to and right of possession to above defined purchase shall be retained by STATE AUTO LOANS COMPANY. The loss, damage, or destruction of the purchase shall not release the Buyer from the payment of the balance due under this Agreement.

If the Buyer becomes default in making any payments as herein provided, the STATE AUTO LOANS COMPANY may repossess said purchase, without notice, and offer it for resale. The STATE AUTO LOANS COMPANY agrees to credit the resale price to the then existing Time Balance and the Buyer agrees to pay the full amount of the unpaid Time Balance, plus any additional costs of repossession up to 15% of the unpaid Time Balance.

_____ BUYER (Seal) _____
Date

(Seal) _____

Variable data for State contracts is shown on Lending Agency Profile III, page ____. There are four alternative financing arrangements for each automobile - 9, 12, 18 or 24 months. This data is filled in on the contract blanks; the borrower is given a copy of the contract after he signs it. The lending agent also keeps a copy.

APPENDIX C

RATIONALE FOR CONTRACT RATINGS

According to the criteria established in the Buyer's Profile of the simulation measurement instrument "To Buy a Car" and the sample contracts available during the learning period, the following assumptions are defined as pertinent to the buyer's choice of a course of action concerning the selection of a source of credit and the contract conditions.

1. The student in the "Buyer" role feels a need and desire to buy a car.
2. Basic requirements of the Buyer for food, shelter, and clothing are accounted for.
3. Maximum known discretionary income is $60 per month.
4. The cost of the monthly payments for the car and its operation must come from the discretionary income.
5. A minimum of $10 to $15 per month is required for operation of the car, resulting in a maximum of $45 to $50 being available for the installment payment.
6. Because of the uncertainty of being a college student with part-time employment, financial commitments should be limited to as short a repayment period as possible, and the contract privilege of early repayment should be considered.
7. Because of limited finances available, Buyer should avoid a contract which involves additional charges or penalty clauses; i.e. balloon payments, additional insurance costs built into the contract, and penalty charges for late payments.
8. Due to the fact of a small ($300) savings reserve on hand, the Buyer must consider the merits of using the reserve as a down payment or holding it, or a portion of it, as a reserve with interest earning capacity which would counteract a portion of the interest cost on a loan.

On the basis of these assumptions and the defined behavioral goals, the following contract rating criteria were established for the available contracts in the simulation measurement "To Buy a Car." Each criteria was assigned an equal score value of one in terms of its negative effect on the borrower; the lowest negative score represents the contract to the "Buyer's best advantage" within the defined assumptions.

CONTRACT EVALUATION CRITERIA AND RATING SCALE FOR AVAILABLE CONTRACTS IN THE SIMULATION MEASUREMENT "TO BUY A CAR"

	Evaluation Criteria	Rating Scale Yes	No
1.	Is monthly payment within monthly income?	0	1
2.	Does monthly payment allow between $10 and $15 per month operating expenses?	0	1
3.	Are additional charges involved in the repayment plan?	1	0
4.	Does contract include penalty charges?	1	0
5.	Is the repayment period one year or less?	0	1
6.	Does contract allow for early repayment?	0	1
7.	Does the contract include a balloon clause?	1	0
8.	Is this the lowest derived cost* available for the purchase of the particular car?	0	1

*Derived cost equals "Interest cost minus interest income earned."

The result of the analysis of each contract according to the above criteria results in the Contract Rating Score for each available contract.

SUMMARY OF CONTRACT RATING SCORES ON AVAILABLE CONTRACTS IN THE SIMULATION MEASUREMENT "TO BUY A CAR"

Source	Car	Contract	Contract Rating Score
CITY AUTO LOANS (Interest Rate 8%)	1	A	3
		B	2
		C	5
	2	A	2
		B	2
		C	5
	3	A	2
		B	3
		C	5
STATE AUTO LOANS (Interest Rate 12%)	1	A	4
		B	5
		C	5
	2	A	3
		B	5
		C	5
	3	A	4
		B	4
		C	5
MIDVALE AUTO LOANS (Interest Rate 18%)	1	A	3
		B	5
		C	4
	2	A	3
		B	5
		C	4
	3	A	3
		B	4
		C	5

Lowest Contract Rating Score represents the contract "to the Buyer's best advantage."

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